



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

DD
Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Dr. G. A. (Jim) Shirazi, Division Director

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

September 7, 1983

Mr. Bob Roggenthen, Project Manager
Western States Minerals
4975 Van Gordon Street
Wheat Ridge, Colorado 80033

RE: Mine Plan Review
Drum Mine
PRO/027/007
Millard County, Utah

Dear Mr. Roggenthen:

The Division of Oil, Gas and Mining has completed its review of Western States Minerals' Drum Mine project to determine compliance with the Utah Mined Land Reclamation Act of 1975, Title 40-8, Utah Code Annotated 1953. The following enclosure lists the sections found to be deficient.

Upon receipt of the requested information, the staff will proceed with completion of the permit review process. If you or your staff have any questions regarding this review, please contact me or Dave Darby of my staff.

Sincerely,

A handwritten signature in black ink, appearing to read "James W. Smith, Jr.", written in a cursive style.

JAMES W. SMITH, JR.
COORDINATOR OF MINED
LAND DEVELOPMENT

JWS/DWD:btb

Enclosures

MINING AND RECLAMATION PLAN REVIEW

Western State Minerals
Drum Mine
PRO/027/003, Millard County, Utah

September 7, 1983

Rule M-3(1)(b)

Applicant should provide a map on the same scale as Map 3-1 showing the location of all existing abandoned facilities and exploration pits. The plan should also include a narrative explaining the eventual disposition and reclamation of these areas during postmining abandonment. (CY)

Rule M-3(1)(d)

The applicant should submit a map detailing the drainage flow pattern on the mine plan property and the location of all culverts, ditches and berms; indicate how the disturbed runoff from the minesite will be contained or treated; and indicate the size of all culverts to be used, including the calculations which demonstrate their capacity capability. Structures should be labelled to conform to descriptions in text. A discussion of the procedures and timetable to be utilized in the reclamation of the hydrologic structures is needed. Riprap or energy dissipators will be required where runoff velocities exceed five feet per second. The applicant will be required to place a fence around the barren and pregnant ponds sufficient to repel rodents and large mammals. The applicant should describe what type of impermeable liner is to be installed in the ponds. (DD)

Rule M-3(1)(e)

Please submit designs for all ponds. The designs should demonstrate adequate capacity and stability (i.e., combined embankment slopes of 5H:1V, stability factor of 1.5 or other acceptable standard engineering practices). (DD)

Rule M-3(1)(f)

The applicant should provide a plan map with cross-sections showing the general geology of the permit area and the extent and depth of the mineralization for which there is a mining potential. A narrative describing the geology of the area and the nature and size of the deposit should also be included so the Division may evaluate the area's potential for the expansion of mining beyond the current plan. Section 40-8-13 of the Act provides that this information shall be protected as confidential if desired by the applicant. (CY)

Rule M-3(2)

Please describe all toxic or unsuitable minerals to be used in the mining and recovery operations and demonstrate their utilization and disposition. (DD)

The application should include a more precise explanation of how the ponds and the spent heaps will be detoxified and what tests will be made to determine complete detoxification. The "current technology" for detoxification of the cyanide leach out and the ore waste piles must be identified and explained. (CY and EH)

The applicant should supply the Division with a postmining contour map of the same approximate scale as Map 3-1. (CY)

The applicant should include more detail in establishing a reclamation timetable and elaborate on the procedures to be used during reclamation (i.e., what structures will be removed, how the area will be reclaimed and an estimated timeframe for completing each major step in the reclamation process in accordance with Rule M-10). (DD)

Rule M-3(2)(e)

A more diverse seed mixture which includes additional grasses, forbs and shrubs suited to the area should be submitted. Scientific names for each species listed should be given. This will eliminate confusion associated with common names. Seeding rates for each species should be expressed as pounds of Pure Live Seed/acre. Protection of reclaimed areas from grazing by domestic or wild animals should be discussed in more detail. If fencing is to be used, indicate which areas will be fenced and give specifications for design of the fence. (SC)

Rule M-5

The operator states in the mining plan that reclamation costs are estimated at \$750/acre. Please submit a more detailed cost breakdown in unit costs (see attached bond estimate sheets). (SS)

Rule M-10

The operator states that the pit highwall is incompetent rock and requests a variance for 47°. The operator must submit either a short stability analysis report at this time, or commit to submitting a review of the highwall describing any stability problems encountered during mining which can be examined by the Division prior to making a decision to approve a variance. (SS)

Surveys should be conducted to determine if any threatened or endangered plant or animal species exist on the site with results of these surveys being submitted to the Division. (SC)

The sampling methodology outlined in Section 7.2.3 should be more clearly described. Explain why the values given in Table 2 for vegetative cover, rock, bare soil and litter do not total 100 percent. Figure 4 showing the general topography and locations of vegetation plots and soil pits is missing. Please provide that figure. (SC)

Monitoring of revegetation areas during the bond release should be discussed. Include methods to be used to monitor revegetation, the timing and duration of monitoring and methods to determine whether or not success standards have been achieved. Will the Soil Conservation Service (SCS) potentials described on page 28 be used as success standards? Funds for monitoring revegetation success for at least three growing seasons should be included in surety calculations. (SC)

Rule M-10(2)(b)

The applicant shall describe the procedure for the disposal of trash, oils, solvents, scrap metal, wood, extraneous debris and other material incident to mining. (DD)

Rule M-10(2)(c)

The applicant should state in the MRP the method of plugging and capping drill, core or other exploratory holes as set forth in Rule M-3(5). (CY)

The applicant should state obligation to posting appropriate warning signs in locations where public access to operations is readily available. (DD)

Rule M-10(6)

Samples of the overburden, ore waste piles and any other potentially toxic material must be taken and analyzed for toxicity to determine the potential affect on reclamation success. (EH)

Rule M-10(8)

The applicant is reminded of the requirement that the Department of Health, Bureau of Water Pollution Control must issue construction permits for any impoundment facilities prior to issuance of a permit from this Division. A copy of their approval should be submitted to this Division. (DD)

Rule M-10(14)

All soil material in the areas of disturbance should be removed and stockpiled prior to construction to insure an adequate amount of material available for reclamation of the high pH, high sodium subsoil and overburden which will be exposed during mining. An estimate of the volumes of all soil material should be provided. No additional soil survey work is required; however, an on the ground investigation to properly evaluate all areas for possible soil material should be done. The specific detailed methods for soil protection while stockpiled must be provided. (EH)